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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,577	03/12/2004	Chung-jeon Lee	P57047	6527
7590	02/23/2006		EXAMINER	
Robert E. Bushnell Suite 300 1522 K Street, N.W. Washington, DC 20005			NGUYEN, TAI V	
			ART UNIT	PAPER NUMBER
			3729	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/798,577

Applicant(s)

LEE ET AL.

Examiner

Tai Van Nguyen

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 34-46 is/are pending in the application.
- 4a) Of the above claim(s) 34-38 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 43-46 is/are allowed.
- 6) ☒ Claim(s) 39-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/798,954.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/12/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicants' election with traverse in the reply filed on 1/6/2006 is acknowledged.

The traversal is on the ground(s) that applicants believe that the restrictions between Group I and Group II, are improperly grouped. The examiner traverses at least for the following reasons.

Group I, claims 34-38, requires etching a resistive material on silicon substrate and etching an individual signal line not required in Group II.

Group II, claims 39-46, requires forming a plurality of resistive heater elements of patterned resistive material on a substrate not required in Group I.

These features require two different and distinct lines of patentability and would place a burden on the examiner to search and examine both group of inventions.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 39-46 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1/6/2006.

***Specification***

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

4. The following title is suggested: A METHOD OF MANUFACTURING A BUBBLE-JET INK JET PRINTHEAD.

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.**

Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because the abstract is not drawn to the claimed invention. i. e. method Correction is required. See MPEP § 608.01(b).

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5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 39-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Chan et al (US 4,716,423).

As applied to claim 39, Chan et al disclose a method of manufacturing a bubble-jet type inkjet printhead, comprising: forming a plurality of resistive heater (50, 52, Fig. 3) elements comprised of patterned resistive material on a substrate (40); forming a patterned electrode layer (46) on the substrate, the patterned electrode layer being electrically connected to the resistive heater elements (44); forming barrier walls over the substrate, the barrier walls (26) separating pairs of patterned resistive heater elements from each other; and attaching a nozzle plate to a top of the plurality of barrier

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walls, the nozzle plate being perforated (32) by a plurality of nozzle holes, each nozzle hole being disposed above a portion of the substrate between a pair of patterned resistive heater elements, each nozzle hole also being disposed between a pair of adjacent barrier walls (see sequence Fig. 2 and 3).

As applied to claim 40, Chan et al disclose forming an insulating layer as read passive layer (53) over the substrate, over the resistive heater elements (44) and over the patterned electrode layer (46), the plurality of barrier walls being formed on the insulating layer (see Fir. 3).

As applied to claim 41, Chan et al disclose the resistive heater elements being formed in pairs (50, 52, Fig. 3), wherein barrier walls (26) serve to separate one pair of resistive heating elements from another adjacent pair of resistive heater elements.

As applied to claim 42, Chan et al disclose the electrode layer (44, Fig. 3) is deposited so that each pair of resistive heaters (50, 52) are electrically connected in series.

***Allowable Subject Matter***

8. Reasons for allowance: the prior does not teach all of the limitations of the claimed invention including:

In claim 43: - etching a hole perforating the first insulating layer to expose a portion of each resistive heater element;

- forming a second electrode layer over the first insulating layer, the second electrode layer being formed in the hole to form electrical contact to each resistive heater element,

- forming barrier walls over the substrate, the barrier walls separating pairs of patterned resistive heater elements from each other; and

- attaching a nozzle plate to a top of the plurality of barrier walls, the nozzle plate being perforated by a plurality of nozzle holes.

Claims 43-46 are allowed.

### ***Conclusion***


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai Van Nguyen whose telephone number is 571-272-4567. The examiner can normally be reached on M-F (7:30 A.M - 4:30 P.M).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TN. February 15. 2006



**A. DEXTER TUGBANG**  
**PRIMARY EXAMINER**